

SAPC 1274

July 18, 1955

G. J. f.

HDM

On the 12th, 13th and 14th of July I visited our West Coast subcontractor for the purposes of gauging progress and providing coordination to our common activities. I felt that you might like to have a short review of the situation as of this date, July 18, 1955.

By way of generalities, we went over our plans for the optical test equipment and we discussed in some detail just how the various pieces of apparatus would be used together in actual operation. We discussed the nature of the film and the development methods which were described to us by the film manufacturer and examined the effect upon the design of the instrumentation which this film would have. As you will remember, I discussed on the phone with you the problem of the lights and after a little thought, we came up with a simple scheme for code numbering the consecutive exposures. The exact number of lights would be determined by the space available but there will be at least four for coding which will permit sequences of 16 before the code repeats. It is hoped that we will be able to get perhaps seven or eight lights in since this would greatly increase the repeat interval. One additional light will not be part of the code but will provide a cutting index. Since the ground service crew will be handling this film, we would very much like to have rather detailed specifications for the development and storage of the material so that it may be properly handled during the test phase. Three gentlemen appeared more or less out-of-the-blue to talk about training of personnel. Since I had met one of them previously and a second was known to RHP, we tried to answer all of their questions. I could not help but feel that they were quite worried about the problem they faced and were really looking for support and reassurance. We did our best to aid them in this respect, particularly with regard to the equipment which we were providing.

Configuration A-2. As A-2 is the first configuration to be delivered, scheduled for August 15, we looked into its details rather carefully. The first group of lenses will be delivered as expected, and we are in the process of trying to find out just how good they are as compared to the standard item, and except for some qualitative feeling that they are very significantly improved, particularly over the central portion of the field, I do not have any numbers to report. The lens cones are now ready for assembly into the completed configuration. With regard to shutters, one has been made up and rather thoroughly tested. It survived the testing remarkably well, and I believe that the rebuilding of this standard item has really paid off in added dependability. The rest are now in work and there appears to be sufficient time to complete what remains to be done. The camera body is also in the machine shop; some already finished and the remainder going ahead rapidly. The increased capacity magazines are being worked on but there is some question as to whether all will be completed by the required date. We are not sure they will be late but the scheduling is very close. The platens for these magazines have been machined so that we can get into operation on the required date with reduced capacity if something goes wrong with the larger ones. The configuration mount is at the sheet metal fabricator and is coming along well so that they will not be a bottleneck. The IMC and programmer are being built within the organization, and from the state of progress to date seem to be well in hand. Overall, it seems to me that we will have a configuration A-2 in operation within a day or two of August 15.

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Configuration A-1. As this is the next item to be delivered, September 1, we took it next in order. The 24" portion of this configuration is being built along with the 24" A-2 and thus will be available in plenty of time. The magazines for the 9x9 cameras are in hand. The cameras themselves are being machined on the premises and are going well with regard to schedule. The machined parts for the case drives are in the same state of completion as the cameras but some purchased items are already late according to original delivery schedules. They are being expedited and promises are now in hand which will permit delivery of the finished item on time. The lenses for these cameras are in stock but they will not be calibrated for the first flights. A recent visit to Curtiss who manufactured these lenses has raised some doubts in the minds of the optical people as to the validity of the calibration procedure which is employed by this supplier. A reexamination of the problem of calibration is in order since it now looks as though it will have to be done by someone else. The most questionable item so far is the shutter for the 9x9, but it is receiving the greatest attention and is being pushed ahead very rapidly. The structure for A-1, like the structure for A-2, is in good shape delivery wise.

Configuration B. With all the items on the schedule, the delivery of Configuration B on October 1 appears now to be the tightest. Drawings for the lens and mirror mounts are out for fabrication. The prototype lens will be available in plenty of time but as of this writing, its performance is not yet known. The lens will be under going tests in the next few days. The designs for magazines, platens, film drive and over-all structure are well along but there is little fabrication yet started. I do not believe there is cause for worry but I certainly intend to watch progress on this item very closely.

Configuration C. As I indicated to you before, a reexamination of the schedule for this configuration will be required as soon as the definitive optical design is available. In the absence of this design, we have been doing some preliminary thinking, some lay-out work and some model making. We are attempting to arrive at a satisfactory approach to the structure without concerning ourselves with the details which performance will have to be changed when the optics are established. We have received a preliminary optical lay-out which will permit us to order glass. Since this is one of the longest delivery items, the placing of this order and the receipt of its delivery schedule should give us an opportunity to estimate the final delivery date. The overall system is now conceived to be 120" focal length operating at f/10.9.

During my western trip, I stopped to see EFM and he appeared quite confident that the date of August 15 will be met. Number one, however, did not seem quite ready to go out the door so perhaps there is a bit of a slide here. I hope that you will keep me quite up-to-date on any last minute changes of plan since at this stage the difference of even one or two days could make our scheduling ineffective. The coordination required between EFM and ourselves on cabling, installation of drift sight and charting camera all seem to be good and with no serious difficulties yet discovered. I am beginning to get a little suspicious of the smoothness with which this aspect of our program has run to date.

With regard to our own work, we will have a project review tomorrow but I will give you the word as well as I know it today. Delivery of windows is proceeding as scheduled and so EFM should feel no pinch for material for his covers. All lenses with perhaps the exception of the new design 24" f/8 are on schedule and this lens is sufficiently close so that there will be no effect on the delivery of final items.

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The data camera is in its very final stages of assembly and hope that within this week we will have some first pictures. Vacation schedules, both at our own plant and that of our subcontractor, are being disrupted in order that this unit be completed in time for the first scheduled tests. Every effort is being made to make the prototype periscope available by August 12. My recent trip west indicated that this was not quite good enough for installation in Burbank. We will thus plan to make installation at the test site. A mock-up has been threaded in and out of its installed position so we expect no mechanical troubles in such a plan. The mirrors for Configuration B are being polished after having their backs routed out.

As a final item, a specification has been prepared for the optical test equipment and we are going forward under "high blowers" on this project in an attempt to get equipment to the test sight at the earliest possible date.

On or about the 24th of May I sent you a sketch showing the reel loading for cameras B & C. I have gotten some information from the camera people which indicates that this standard has been changed. The exact specification is still in some doubt but consider this note a warning to disregard the previous sketch. A new definition will be along as soon as we have it worked out. The reels which are now at the film manufacturer's are standard type and are to be wound in the standard fashion with the emulsion in. Since they do not have right or left sides, no problem arises.



*I note the population of LA county is 5,085,000 per
paper of 14 July!*

RMS/dmg